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農林水産省

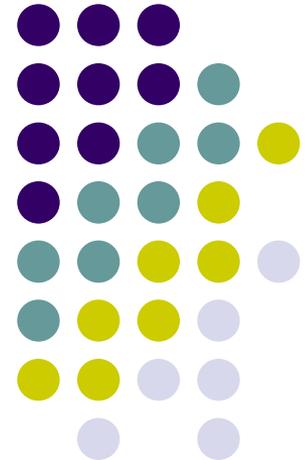


Recent PVP Development and Challenges in Myanmar

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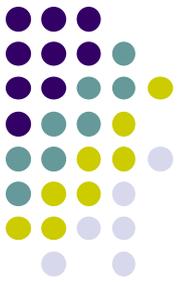
Outlines:



- **I. Receiving & Utilization of New Plant Variety**
- **II. Organization Structure of DAR, *PVP***
- **III. Recent Activities for PVP System Establishment**
- **IV. Challenges for PVP Adoption**

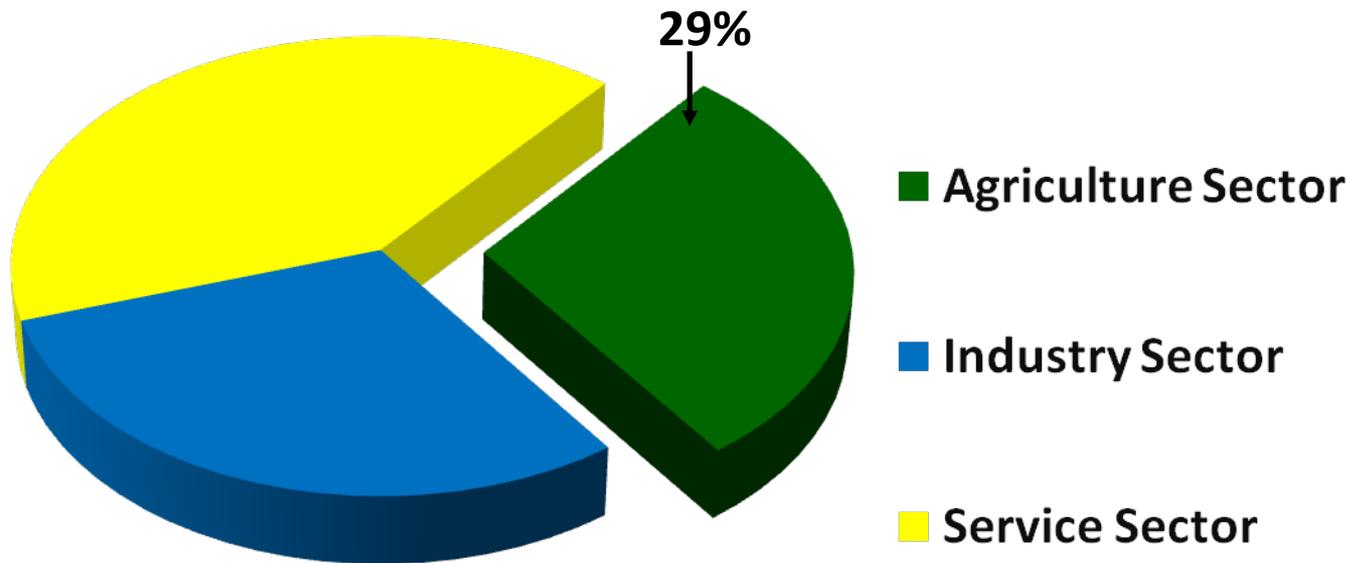
Introduction

- ✓ **Agriculture sector is the backbone of Myanmar economy**
- ✓ **Development in agriculture sector will enhance the socio-economic development of the country**



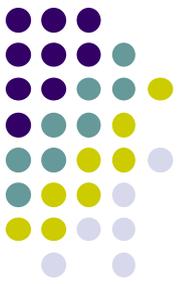
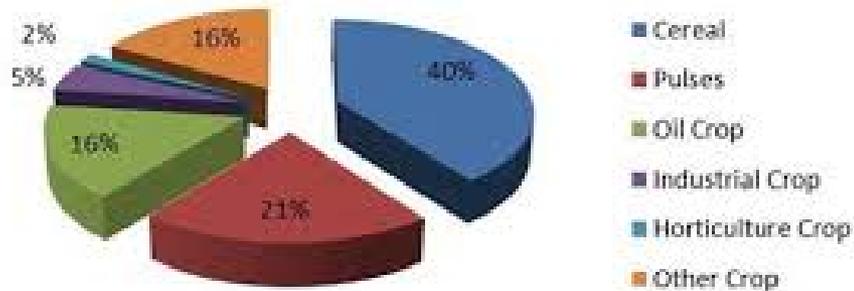


National Gross Domestic Product (GDP)



Source: Myanmar Agriculture at a Glance (2016)

✓ **Government is dedicating tremendous efforts to achieve greater progress in the agriculture sector**



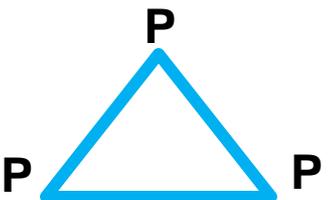
- ✓ Myanmar has a huge potential to become a **credible global food supplier**
- ✓ To attain this potential, Myanmar will need to intensify its agriculture and enhance **farm productivity and competitiveness**
- ✓ Myanmar Government laid down the required **Agriculture Policy**

To emphasize production and utilization of high-yielding and good quality seeds

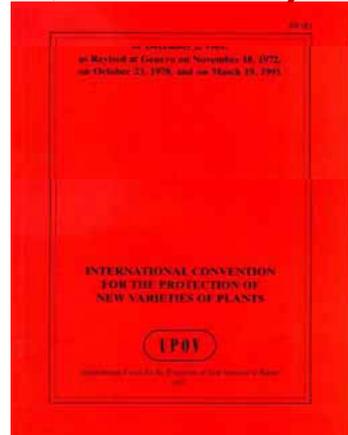
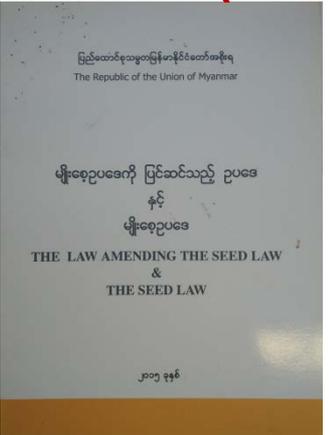
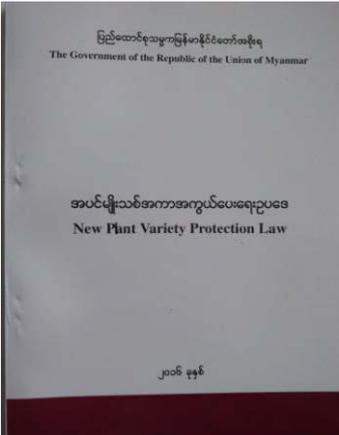
National Seed Industry - (PVP system)

What is PVP? How to relate with the development and utilization of New Plant Variety for our society.

- ✦ Variety
- ✦ So
- ✦ and
- ✦ At present, the seed industry is leading role in government sector.
- ✦ Not enough (eg: about 10% of rice growing fields covered by formal seed system)
- ✦ Informal seed system



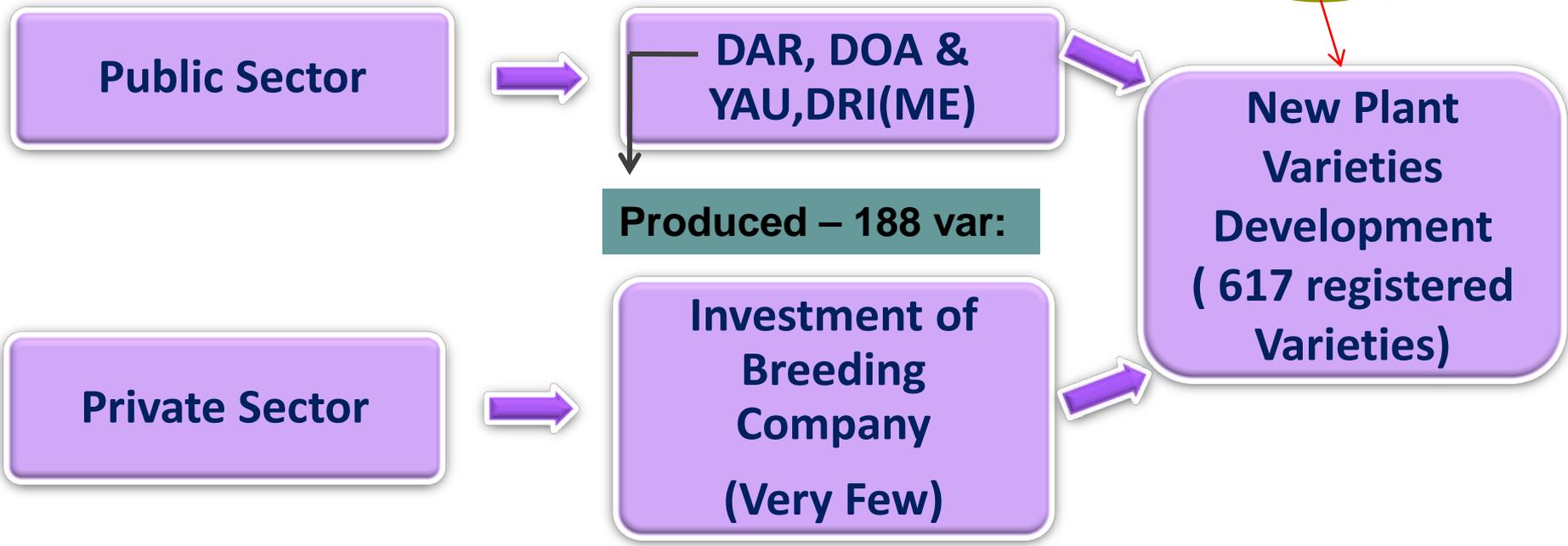
➔ Now, government sector is encouraging private companies for increasing crop production through the control of systematic approach under **Related Laws (Seed Law, PVP law)**



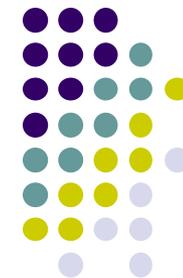


➤ I. Receiving & Utilization of New Plant Variety

Crop Improvement Activities



II. Organization Structure of DAR, *PVP*



VISION

Food Security and nutrition with the impact of innovative advanced crops variety and production technology research

Director (Admin)

Director (Rice & Other Cereal Crops)

Director (Oil Seed Crops & Food Legumes)

Director (Industrial Crops & Horti:)

Director (Soil, Water & Agr: Engin:)

Director (Biotech:, Plant Genetic Resources & Plant Protection)

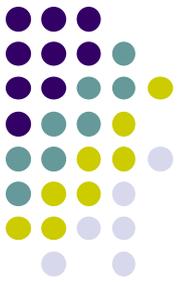
Director (Agro:, Agr: Economics & Statistics)

Total of 26 Sections are well set up in HEAD Quarter & 25 Satellite farms

PVP Section

⇒ Set up in 2016 May contact for BR application to PVP section, DAR, Yezin, Nay Pyi Taw, MYANMAR

III. Recent Activities for PVP System Establishment (PVP Background in Myanmar)



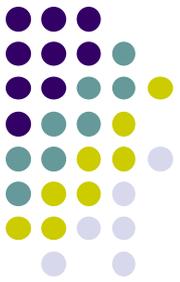
- ⇒ **1994** - **A party to the Convention of Biodiversity**

- ⇒ **1995** - **WTO's member**
 - **Aware of importance of PVP system and Intellectual Property Rights**

- ⇒ **2004** - **Participated to the UPOV- INGER Workshop**

- ⇒ **2006** - **Participated to conduct DUS test (INGER)**

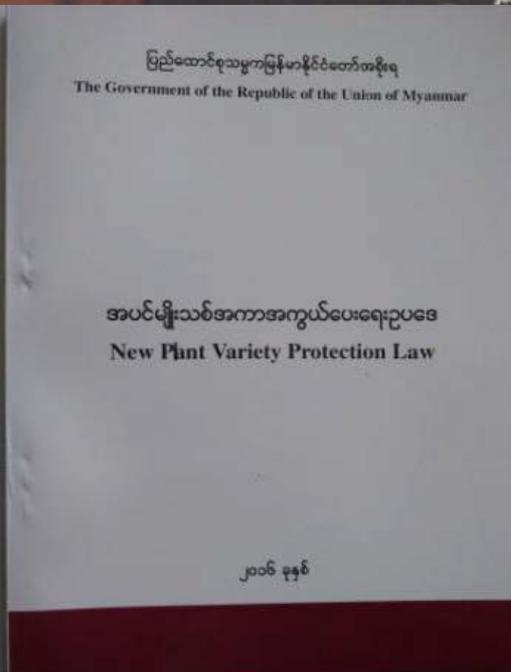
PVP Background in Myanmar



- ⇒ **2007** - Member of EAPVP Forum
- ⇒ **2009** - PVP TWG started to organize with 10 members in DAR
- ⇒ **2003 - now** - joined PVP related Trainings, Workshops and Seminars



1st time PVP system awareness seminar jointly organized by UPOV, MAFF Japan, MOAI Myanmar at 2012



2nd time PVP system awareness seminar jointly organized by UPOV, MAFF Japan, USPTO, MOALI Myanmar at 2016



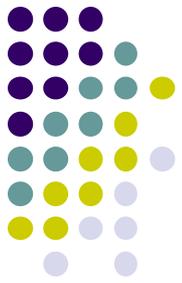
Objectives of Myanmar PVP Law



- to protect of the rights of breeders of new plant varieties
- to develop the activities of plant breeding
- to encourage investments in and development of the breeding of new plant varieties in both public and private sectors
- to assist the agricultural sector development by producing and cultivation of the new improved varieties

44 articles – PVP law



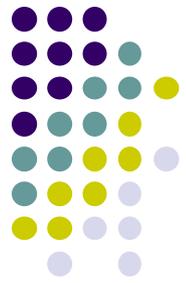


1st time PVP law amendment meeting with UPOV lawyer in Myanmar at 2016



2nd time PVP law amendment meeting with UPOV lawyer in Myanmar at 2017

In country training for PVP system implementation jointly organized by Naktuinbouw Variety Testing Department and Wageningen University, the Netherlands and DAR, MOALI, Myanmar at January 2017





Practical Exercise



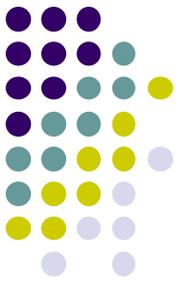
Field Visit



Visiting Lecture from Japan, Korea & Vietnam



PVP knowledge Sharing training



**PVP Section
Staffs**

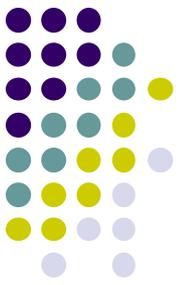
July 2017
DAR, Myanmar

**20-DAR Crop
Specialization
Staffs**

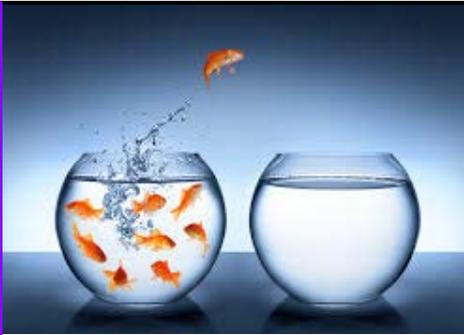
IV. Challenges for PVP Adoption



Policy Constraints

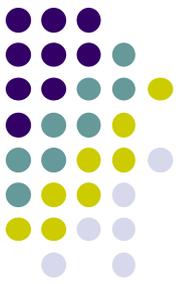


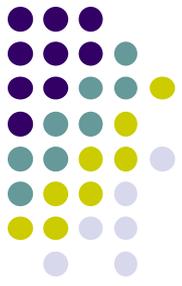
- 👉 Weakness in clearer policies for sector, crops , varieties with priorities
- 👉 Intellectual properties rights not well enforced
- 👉 Weakness in market-driver policy
- 👉 Weakness in clear policy on variety accreditation and registration
- 👉 Insufficient budget allocation to Research and Development
- 👉 Credit provision to producers for seed production



Institutional Development

- ↪ Implementation enforcement of laws and regulations (seed law, PVP law) from local government to grass-root level
- ↪ Needs to promote capacity building (Institution, HRD)
- ↪ Establishment of seed industry associations
- ↪ PVP certification system enhancement
- ↪ Community seed bank, farmer groups and seed accreditation
- ↪ Institutionalization of farmers participatory seed development and production
- ↪ Strengthen International collaboration for Research and Development





Infrastructure and Facilities

- ★ Advanced seed and grain quality laboratory
- ★ DUS test station
- ★ Equipment : Advanced equipment for plant DUS testing
- ★ Molecular DNA laboratory for EDV case
- ★ Seed health facilities
- ★ Data Management facilities



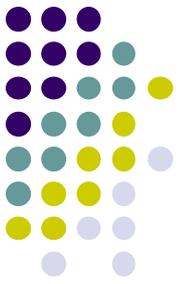
Tests	Results / Resultats / Resultados / Ergebnisse
Leukocytes/Laucocytes Leucocitos/Leukozysten	neg. trace + 70 ++ 125 +++ 500 WBC/ μ L
Nitrite/Nitritos Nitrit	neg. trace pos.
Urobilinogen/Urobilinogène Urobilinoğeno	0.1 normal 1148 2038 4096 8191 μ g/dL (r/mg/dL)
Protein/Protéines Proteínas	neg. trace +500.31 ++1201.18 +++2402.36 +++4804.72 μ g/dL (g/L)
pH	5 6 6.5 7 7.5 8 8.5
Blood/Sang Sangre/Blut	neg. hemolysis trace +20 ++ 80 +++200 hem/hematocrit ++ 80 RBC/ μ L
S.G/Densité Densidad/Spec.Gew.	1.000 1.005 1.010 1.015 1.020 1.025
Ketones/Cétones Cetonas/Ketonkörper	neg. ≤ 100 0 +150 10 ++300 30 +++ 600 60 ++++ 1200 120 μ g/dl (mmol/L)
Bilirubin/Bilirubine Bilirubina	neg. ≤ 100 0 +150 10 ++ 300 30 +++ 600 60 ++++ 1200 120 μ g/dl (mmol/L)
Glucose/Glucosa	neg. ≤ 1000 50 +2500 40 ++5000 20 +++10000 10 ++++20000 10 μ g/dl (mmol/L)



Conclusion

Specify of the technical skills of PVP
staffs for DUS testing and PVP
Administrative knowledge

It is need to support through strong collaboration
with international & through **higher level
awareness** for harmonized PVP system.





Thank You

